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Biosecurity of Urban Chicken Flocks in Four U.S. Cities

Biosecurity involves the use of management practices designed to prevent the introduction of disease. Some basic biosecurity guidelines for urban chicken flocks include¹:

- Keep your distance. Isolate new birds and birds returning from places where they were exposed to other birds (such as fairs or shows) for 30 days.
- Keep it clean. Prevent germs from spreading by washing hands, and cleaning shoes, tools, and equipment.
- Keep visitors out of the chicken area whenever possible.
- Limit contact with wildlife and rodents. If chickens are kept outdoors, they should be in an enclosed area covered with a solid roof and wire mesh or netted sides.
- Know the warning signs of infectious bird diseases. Watch for early signs to prevent the spread of disease.
- Report sick birds. Report unusual signs of disease or unexpected deaths.
- Consider vaccination to protect your birds from diseases.

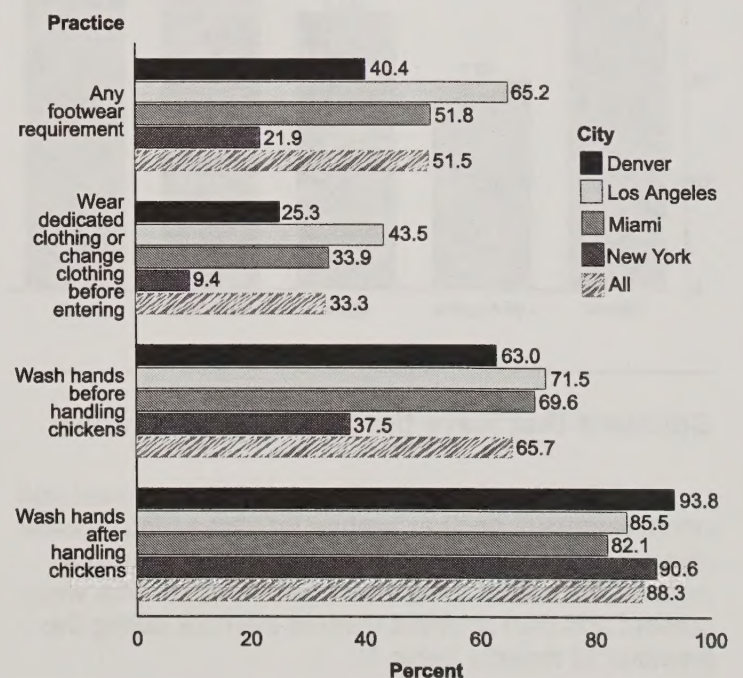
The U.S. Department of Agriculture's (USDA) National Animal Health Monitoring System conducted the Poultry 2010 study. One objective of the study was to characterize biosecurity practices in urban chicken flocks in four major U.S. cities: Denver, Los Angeles, Miami, and New York City.

To collect data in Denver, Los Angeles, and Miami, feed stores were visited and a questionnaire was administered to customers who owned chickens, lived on less than 1 acre of land, and lived within the respective city's defined boundaries. The questionnaire was available in English and Spanish, and only one questionnaire per household was administered. In New York City, data were collected from members of a chicken-related club, rather than from feed store customers. The study questionnaire was available for completion on the club's Web site and also administered at a presentation to club members. A total of 147, 189, 56, and 33 questionnaires were completed in Denver, Los Angeles, Miami, and New York City, respectively.

Biosecurity practices

- Approximately two-thirds of flocks (65.7 percent) always or sometimes required hand washing *before* handling chickens, and almost 9 of 10 flocks (88.3 percent) always or sometimes required hand washing *after* handling chickens.
- One-third of flocks (33.3 percent) always or sometimes required people (including family) to wear dedicated clothing or change clothing before entering the chicken area.
- Approximately one-half of flocks (51.5 percent) always or sometimes required at least one of the following footwear practices before entering the chicken area:
 - Use of footbath
 - Scrub boots/shoes
 - Wear shoe covers, dedicated shoes, or change shoes
- A higher percentage of flocks in Los Angeles always or sometimes required at least one footwear practice compared with flocks in Denver and New York City (figure 1).

Figure 1. Percentage of Flocks that Always or Sometimes Required the Following Practices for People (Including Family) Entering the Chicken Area, by City



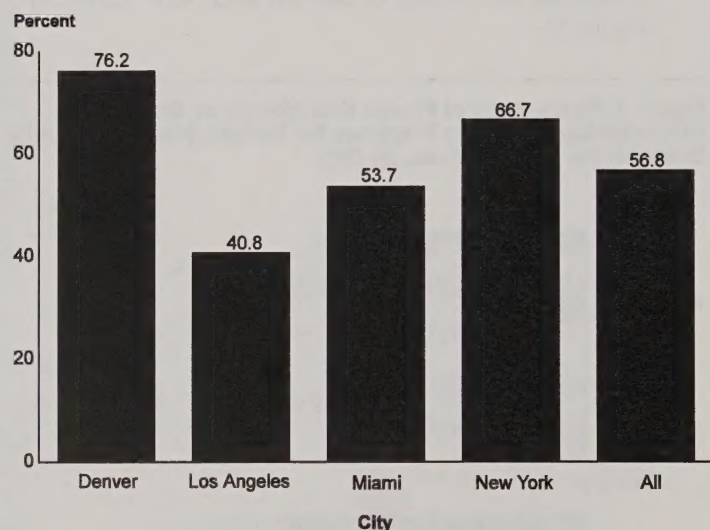
Flock additions

New birds can be a source of disease introduction. Flock owners were asked if they acquired any new chickens (excluding those hatched on site) during the previous 12 months.

More than two-thirds of flocks in Denver and New York City had acquired new chickens during the previous 12 months (figure 2). However, many of these acquisitions were actually initial flock startups, rather than new additions to existing flocks. About one-third of all flocks in Denver and New York City (32.9 and 35.5 percent, respectively) had acquired their first chickens in the previous 12 months.

Flock owners should acquire new birds from healthy flocks known to be free of disease. Before purchasing new birds, ask the seller about his/her bird health program, including vaccinations given, and whether or not the flock has been tested for diseases or recently examined by a veterinarian. Also, observe the source flock for signs of illness, such as eye or nasal discharge, diarrhea, or excessively underweight birds. New birds should be quarantined for a minimum of 30 days and tested for relevant diseases before introduction to the flock.¹ Quarantined birds should be kept where they cannot have contact with the existing flock, and separate feeding equipment, clothing, and footwear should be used when caring for quarantined birds. Alternatively, flocks could be managed all-in/all-out (no new additions until previous flock is removed).

Figure 2. Percentage of Flocks that Acquired New Chickens (Excluding Those Hatched On Site) During the Previous 12 Months, by City



Chickens that leave the flock and then return

Chickens that leave the flock to attend an event and return represent another avenue for introducing disease agents. Only 6.9 percent of flocks took chickens to a location, such as a fair or show, where other birds were present and then returned them to the flock during the previous 12 months (table 1).

Table 1. Percentage of flocks that took chickens to a location such as a fair or show where other birds were present and then returned them to the flock during the previous 12 months, by city

Percent Flocks				
City				
Denver	Los Angeles	Miami	New York	All
7.9	5.7	12.8	0.0	6.9

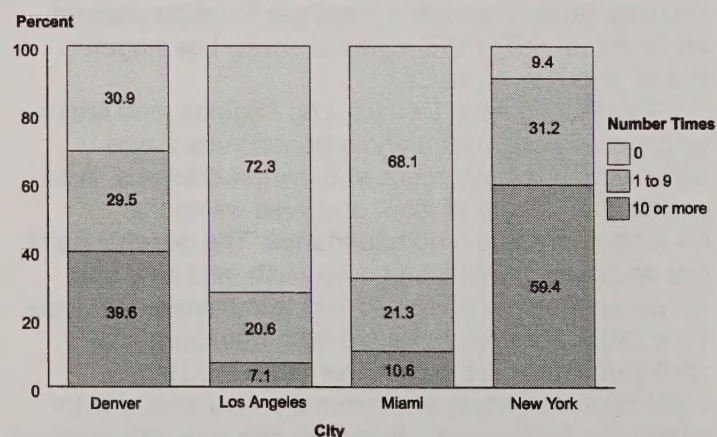
Visitors

Visitors can carry disease agents from one flock to another. Flock owners were asked about business visitors and nonbusiness visitors. Business visitors included veterinarians, extension agents, customers purchasing chicken products, bird dealers/buyers, meter readers, other service persons, etc. Nonbusiness visitors included school groups, friends, neighbors, etc.

- Only 14.1 percent of flocks had any business visitors enter the chicken area during the previous 12 months.
- About one-half of flocks had nonbusiness visitors enter the chicken area during the previous 12 months. About 4 of 10 flocks in Denver (39.6 percent) and 6 of 10 flocks in New York City (59.4 percent) had nonbusiness visitors enter the chicken area 10 or more times (figure 3).

Flock owners can take precautions to reduce the risk of visitors introducing disease to their flock. For example, visitors who own birds or have been in contact with birds should not be allowed in the chicken area. All visitors should be asked to change into clean boots and wash their hands before entering the chicken area.

Figure 3. Percentage of Flocks by Number of Times Nonbusiness Visitors* Entered the Chicken Area During the Previous 12 Months, and By City



*School groups, friends, neighbors, etc.

Contact with other animals

Contact with domestic poultry, wild birds, rodents, and insects can spread infectious agents; therefore, it is important to ensure that wildlife does not have access to poultry housing. As mentioned before, if chickens are kept outdoors, they should be in an enclosed area covered with a solid roof and wire mesh or netted sides. Providing food and water only in the covered area will discourage migratory birds from mingling with the flock.

- About 3 of 10 flocks (29.0 percent) had a wild-bird feeder at the location where the chickens were kept.
- Wild birds other than waterfowl were seen daily in the chicken area in 39.5 percent of flocks, and neighbors' chickens/birds were seen daily in 14.3 percent of flocks.
- Pet dogs or cats were seen daily in the chicken area in 62.6 percent of flocks.

Biosecurity for Birds educational campaign

Overall, 29.4 percent of urban chicken owners had heard of the Biosecurity for Birds educational campaign, a USDA–Animal and Plant Health Inspection Service initiative designed to help poultry owners keep their birds healthy.

Summary

Biosecurity involves management practices that reduce the risk of introducing disease to a flock. Each flock owner should develop a biosecurity plan based on the specific risks of the flock and on the diseases targeted for control. The biosecurity plan may include some combination of management practices and the use of vaccines.² Everyone in the family, including children, should be aware of biosecurity protocols.

References

1. Bird owners can find additional information on backyard biosecurity practices at:
http://www.aphis.usda.gov/animal_health/birdbiosecurity/
2. For more information about vaccinations:
[http://www.poultry.uga.edu/extension/tips/documents/07%2005%20BY%20tip%20J%20M%20M%20\(web\).pdf](http://www.poultry.uga.edu/extension/tips/documents/07%2005%20BY%20tip%20J%20M%20M%20(web).pdf)

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